



Tennessee Breastfeeding Hotline Quarterly Report

Submitted to:

State of Tennessee, Department of Health

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Executive Summary

October to December 2015

The Tennessee Breastfeeding Hotline (TBH) is a telephonic breastfeeding support program that is free to nursing mothers, their families and partners, expectant parents, and to health care providers. Participants who call the Tennessee Breastfeeding Hotline speak with a certified lactation professional who collects the mother's and baby's information using self-reporting techniques. This information is gathered for the purpose of making assessments, attending to the client's individual needs, referring the client to available resources and ensuring that the lactation professional is able to follow-up with the client.

Lactation professionals offer strategies to empower clients to breastfeed, identify barriers to successful breastfeeding, and provide techniques to cope with and overcome barriers to breastfeeding. Participants receive individualized counseling for common breastfeeding issues. If the caller's issues are beyond the scope of the lactation professional's expertise, or require treatment, the mother is directed to a health care provider or an outside agency better able to offer the necessary support. Some participants receive a 24 hour follow-up call, if the caller's situation requires additional support and encouragement.

The measurement period for this report is October 2015 through December 2015, but the report may make comparisons to previous quarters. Lactation consultants collected quantitative data through the use of a conditional questioning workflow. These workflow data analyzed characteristics such as breastfeeding trends, call volume and repetition, and patterns in caller's age, race, and ethnicity. After the initial call, TBH also conducts follow-up calls that occur at 4, 8, and 12 weeks to assess self-reported outcomes and client satisfaction with services. Over the course of the measurement period, these data are collected to aid in the construction of a continuous quality improvement plan, vital in ensuring the sustainability and productiveness of the TBH.

Participants receive follow-up calls at 4, 8 and 12 weeks for two purposes. The first purpose is to encourage the women to continue breastfeeding. In Tennessee, the percentage of breastfed infants that were supplemented with formula before three months was 26.5%.¹ During this quarter, there were a total of 1,287 calls to the TBH. When asked about intention to continue breastfeeding, 98% of callers responded that they intended to continue breastfeeding (pg. 22, Table 14A). At four weeks follow-up, 87.5% of the moms reached were still breastfeeding (pg. 22, Table 14B).

The second purpose of the three follow-up calls is to acquire necessary information used to determine the effectiveness and quality of the program from the viewpoint of the user. For each follow-up call, clients are asked to rate overall services received from the TBH. During this quarter, 86.5% of the callers reached at

¹ Nutrition, Physical Activity and Obesity Data, Trends and Maps web site. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (CDC), National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity and Obesity, Atlanta, GA, 2015. Available at <http://www.cdc.gov/nccdphp/DNPAO/index.html>.

the 4-week follow-up and 86.7% of callers reached at the 8-week follow-up reported being satisfied or very satisfied with services received (pg. 24, Table 15). High satisfaction of services remained at 12-week follow-up as well. When asked about the likelihood to recommend TBH services to another person, 89.6% of callers reached at 4 weeks and 87.2% of callers reached at 8 weeks reported that they were likely to refer someone else to the hotline (pg. 24, Table 15).

Clients are welcome to call the hotline any time they need support, regardless of language barriers. An auto attendant greets callers in both English and Spanish. Interpretive services are available for more than 200 languages. Special operators are available to assist hearing-impaired callers.

Data Limitations

TBH understands and balances the need to provide an important service as well as the need to collect data for evaluation. TBH staff attempt to capture complete information from all of its callers. However, missing data may be present due to TBH's priority to high quality service or non-response from a caller. Also, TBH is available to a wide range of individuals who may seek breastfeeding support, so some questions may not be applicable to all callers.

Introduction

Breastfeeding is widely accepted as an effective strategy to promote positive health outcomes for both mothers and their babies. Despite growing data on these benefits, 27.4% of babies born in Tennessee in 2012 were never breastfed, according to the Centers for Disease Control and Prevention's most recent National Immunization Survey². By the time their baby reached 6 months of age, the proportion of Tennessee mothers continuing to breastfeed decreased from 72.6% to 43.1%. Tennessee rates for breastfeeding initiation and six months duration are lower than Healthy People 2020's goal 81.9% and 60.6%, respectively.

This report was created to examine how the TBH is currently fostering the healthy development of children by promoting and supporting the practice of breastfeeding in Tennessee. By addressing common barriers to breastfeeding in the state, the hotline reinforces the national goal of higher breastfeeding rates, over longer periods of time. Prevalent barriers to breastfeeding include³:

- Lack of knowledge
- Lactation problems
- Poor family and social support
- Social norms
- Embarrassment
- Employment and child care
- Health services

The TBH addresses these obstacles in a multifaceted approach designed around the individual needs of each client. The primary medium for doing so is through International Board Certified Lactation

² Centers for Disease Control and Prevention National Immunization Survey (NIS), 2012 births

³ U.S. Department of Health and Human Services. Executive Summary: The Surgeon General's Call to Action to Support Breastfeeding. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; January 20, 2011.

Consultants (IBCLC) and/or Certified Lactation Counselors (CLC). These lactation professionals answer questions and provide information about:

- Inadequate milk production
- Nursing rejection by baby
- Breast or nipple pain
- Medications and breastfeeding
- Working and breastfeeding
- Breast pumps and rentals
- Breastfeeding in public
- Tennessee laws that relate to breastfeeding
- Weaning
- State-approved online breastfeeding support groups
- State-approved online breastfeeding resource material

The topics of information covered by the counselors acknowledge the barriers to breastfeeding experienced by women nationally.

Caller Demographics

The target population of the TBH includes nursing mothers, their families and partners, expectant parents, and health care providers. During this 2nd quarter, 78.5% of the callers were white, 18.6% were black, and 2.0% identified as Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Less than 1% of callers were of multiple or mixed race (pg. 16, Table 9B). According to the United States Census Bureau, 78.9% of Tennessee residents are white, 17.1% are black, and 2.2% are Asian, American Indian or Alaskan Native, or native Hawaiian/Pacific Islander. Close to 2% of Tennessee residents are of multiple or mixed race.⁴ Hispanic women comprised 5.1% of the caller base for the 2nd quarter (pg. 16, Table 9C). When examining age, the hotline received the highest proportion of calls (42.8%) from callers between the ages of 26 and 30 (pg. 15, Table 9A).

Notable Findings

The TBH recently increased staffing, hiring Julie Winter RN, CLC and Tuwana McDaniel RN, CLC in October and December 2015, respectively. These additions bring current staff to a total of twelve lactation specialists (two full-time and ten part-time). In addition, two TBH staff members, Julie Bridger and Lakisha King Windle, recently completed their IBCLC certification in November 2015.

The Memphis Area Lactation Consultants Association (MALCA) has invited Jan Barger RN, MA, IBCLC, FILCA, to present the IBCLC Exam Review. The course review will take place March 16-17th 2016 at the University of Memphis Community Health Building. Several TBH staff have signed up to attend this review and other IBCLCs (current or potential) across the state are welcome to attend.

⁴ U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits
Last Revised: Wednesday, 14-Oct-2015 10:53:57 EDT

Le Bonheur's marketing department featured the TBH in the Fall 2015 issue of the Le Bonheur magazine. The article's aim was to increase awareness and acknowledge the value of this important resource amongst the medical community. The article was published by Le Bonheur's Communications Specialist, Hillary Welton, with assistance from TBH lactation specialists and evaluators. It highlighted a unique story from a mother who had utilized the hotline frequently when breastfeeding her son. Basic hotline operations and data were also reported in the article. The article was shared with our staff and at the Community Advisory Board meeting in November 2015. A PDF of the magazine can be found here (the TBH article is pages 17-20): <http://www.lebonheur.org/dotAsset/c160c146-d2ff-40f3-ad3e-9dd34f043d1e.pdf>.

Finally, per discussion with the Tennessee Department of Health (TDH), TBH staff has worked on categorizing the primary reasons for calling to provide a more complete view of the reasons for calling within the quarterly and annual reports. Sierra Mullen (a TDH epidemiologist) and Kristy Gentry (State Breastfeeding Peer Counselor Coordinator) drafted categories for TBH staff to review. Input and revisions were sought from TBH staff and evaluators and Community Advisory Board (CAB) members Ginger Carney RD, IBCLC, MPH and Dr. Genae Strong.

Conferences and Continued Education

During this quarter Dr. Michael Warren, the Assistant Commissioner of the Division of Family Health and Wellness at TDH, submitted was accepted to present a poster at the Association of Maternal and Child Health Programs (AMCHP) Conference in Washington DC on January 22-26, 2016. The concept and objective of the poster presentation is to share information with maternal child health stakeholders across the country about the hotline, including hotline data, best practices, and lessons learned. Dr. Michael Warren and Sierra Mullen collaborated to create a poster with TBH evaluators Christina Underhill and August Marshall, along with coordinator Helen Scott. The poster will highlight data from January 2014 through September 2015, hotline operations, continuous quality improvement, and barriers. Unfortunately, due to severe weather in the D.C. area, the AMCHP conference was cancelled. The conference has since been rescheduled to be held April 6-9th 2016.

Medical Consultant and Call Report Auditing

As part of the hotline's continuous quality improvement, Allison Stiles M.D. F.A.A.P., reviews 10 randomly selected charts every month. In addition to TBH's medical consultant, Dr. Stiles serves as a member of the CAB and is Chair of the Shelby County Breastfeeding Coalition. She also shares her feedback with the staff and offers ways to improve.

During this quarter, TBH received two calls that required medical consultation. The first call was a mother inquiring about taking Benadryl for an allergic reaction while breastfeeding her two month old baby. TBH provided information from Dr. T. Hales' Medications and Mother's Milk resource. The mother then called back the following day to inform the TBH that she had breastfed her baby who started having a reaction. Therefore, she took her baby to the emergency department, where they were both treated and discharged home. She was told that the histamine reaction caused the reaction in her baby and wanted to share this information with hotline staff. Dr. Stiles was notified about this call and this information was shared with the staff, so that they will be cognizant of repeat or similar situations in the future.

One month later, the TBH received a similar call. This time it was a mother who was inquiring about the medication her health care provider had prescribed for her for a reaction to a wasp sting. She reported that

she was allergic to wasps. TBH provided information from the Medications and Mother's Milk resource. She also received a 24 hour follow-up call to find out how she and the baby responded. The mother reported no problems with breastfeeding and that the baby had no reported reaction.

Call Report Changes

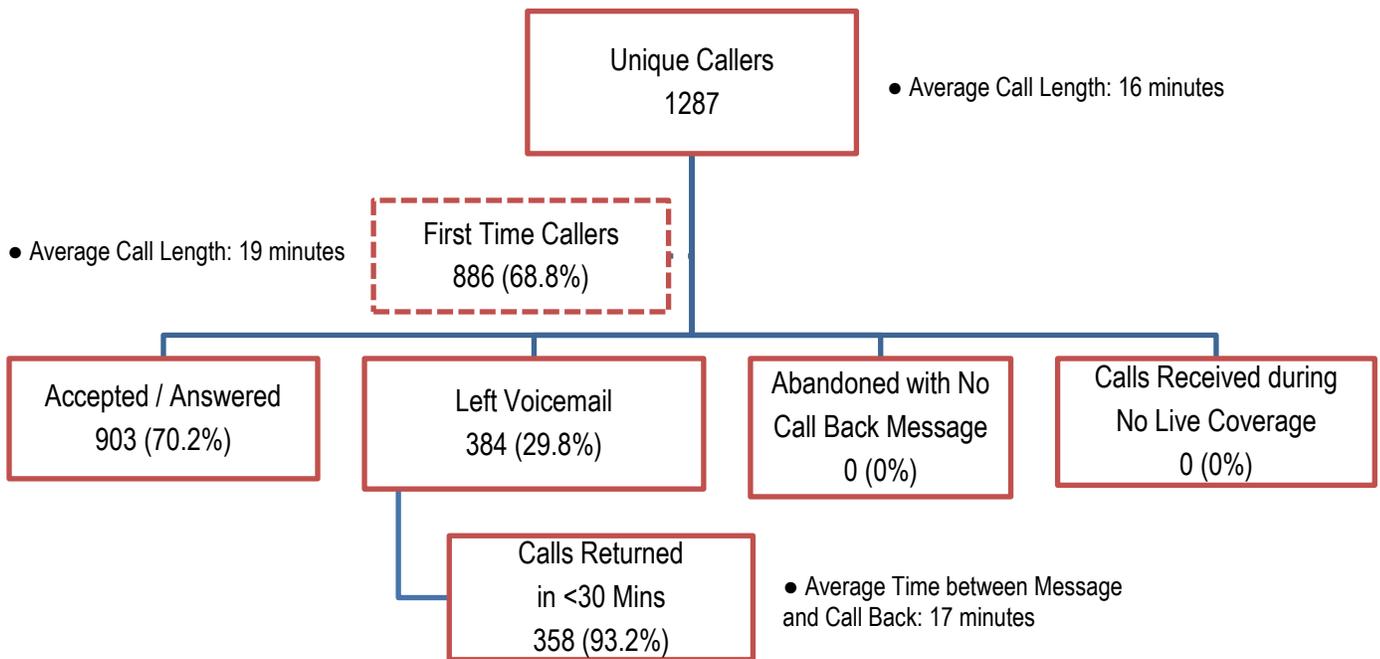
Since the previous quarterly report, we have:

- Added the question "Are you currently receiving WIC services?"
- Added a question for repeat callers, "Did you use the hotline with a previous child?"
- Added a field for "Healthcare Provider" under "Caller Identity"
- Added "Call Back in Response to Voicemail" under "Primary Reason for Calling"

Tables and Figures

(1) Call Data

Figure 1. Tennessee Breastfeeding Hotline Call Flow, 2nd Quarter (October – December 2015)



The flow chart above illustrates calls received to the Tennessee Breastfeeding Hotline from October through December 2015. For the 2nd Quarter of SFY 2016, the TBH had 1,287 unique callers. Of those total unique callers, 886 (68.8%) were first time callers to the TBH. Average call length for all calls was 16 minutes; first-time callers were slightly longer (19 minutes).

Of all calls received, 903 (70.2%) were answered and accepted live by TBH staff. About 0.4% was unable to be reached because caller did not leave a call back message (not shown). Finally, 384 (29.8%) callers left a voicemail for TBH staff; almost all calls were returned within 30 minutes of initial voicemail.

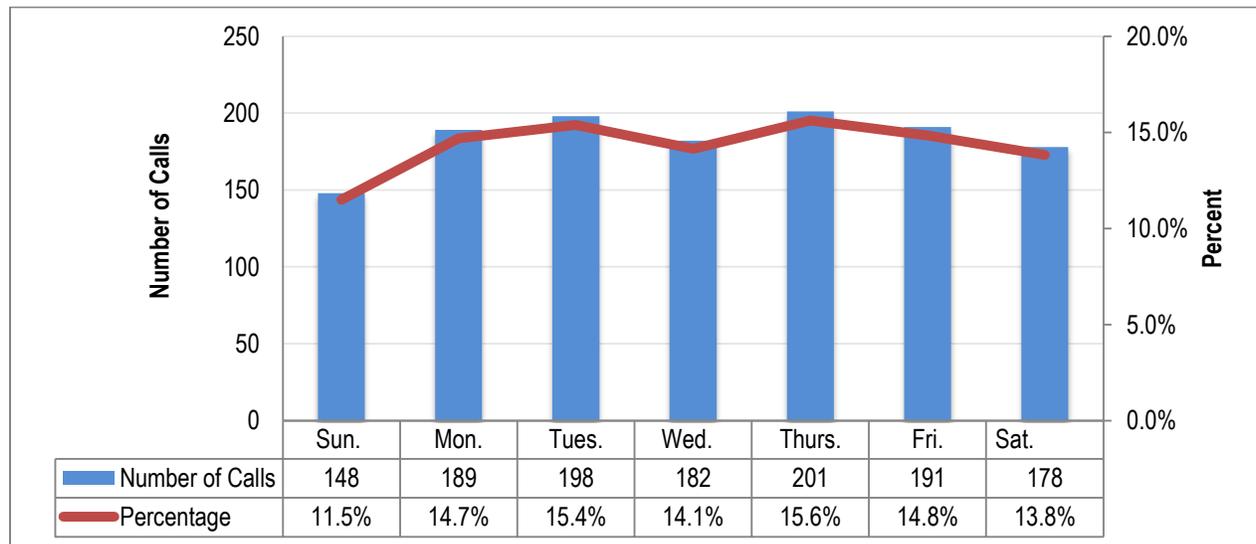
(2) Call Volume & Time

Table 2A. Call Volume, by Time of Day (N=1287)

Time of Call	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
12 AM - 7 AM	41	30	42	113	8.8%
8 AM - 12 PM	108	128	124	360	28.0%
1 PM - 6 PM	187	160	200	547	42.5%
7 PM - 11 PM	110	74	83	267	20.7%
TOTALS:	446	392	449	1287	100%

During the 2nd quarter, the majority of calls (42.5%) were received between 1 PM and 6 PM. About 70% of calls were received during the traditional workday (8AM – 6PM).

Figure 2. Call Volume, by Day of Week (N=1287)



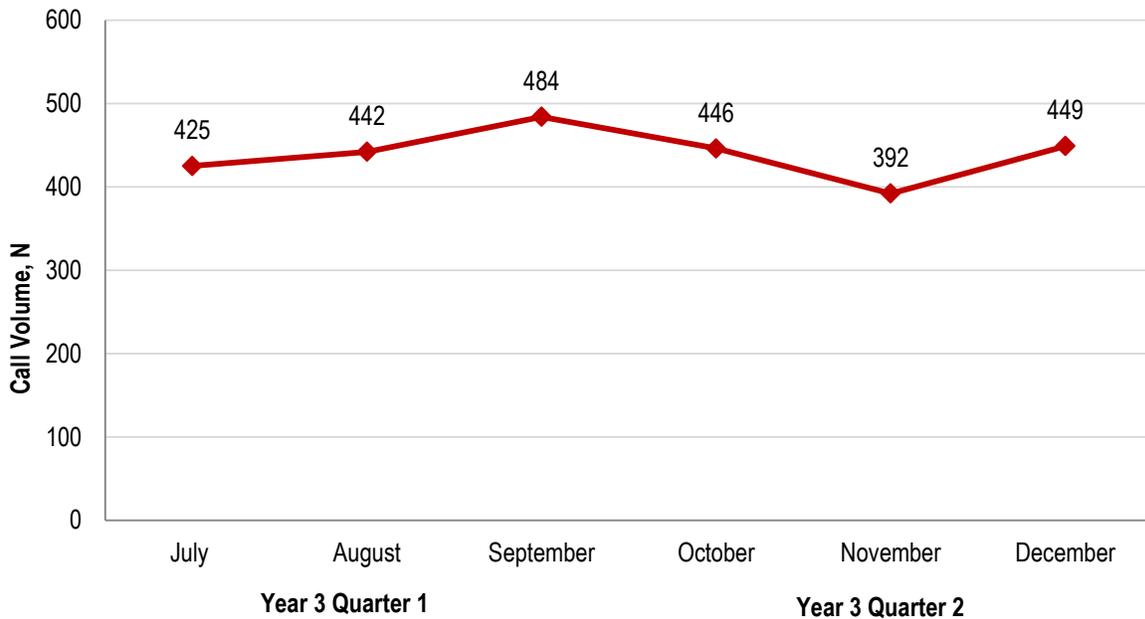
During the 2nd quarter, TBH experienced its highest call volumes on Tuesdays and Thursdays. Call volume was lowest on Sundays (11.5%).

Table 2B. Call Volume, by Month (N=1287)

Month	Number of Calls	Percent
October	446	34.7%
November	392	30.5%
December	449	34.9%
TOTALS:	1287	100%

Call volume within this 2nd quarter was highest during December.

Figure 2. Call Volume Trend, Current Quarter (Y3Q2) Compared to Previous Quarter (Y3Q1)



TBH received 1,351 calls at the end of the 1st quarter of its third year. Compared to the 2nd quarter, TBH received 1,287 calls, a decrease of about 4.7%, largely due to a drop in call volume in November.

(3) Call Length

Table 3. Number and Proportion of Calls within 2nd Quarter, by Call Length (N=1287)

Length of Call	2 nd Quarter Totals	2 nd Quarter Percent
0-9 minutes	424	32.9%
10-19 minutes	590	45.8%
20-29 minutes	204	15.9%
30-39 minutes	43	3.3%
40-49 minutes	17	1.3%
50-59 minutes	6	0.5%
1 hour or more	3	0.2%
TOTALS:	1287	100%

Over three-quarters (78.7%) of the calls lasted between 0 and 19 minutes during the 2nd quarter. Three calls lasted more than an hour. Longer calls are usually due to utilizing a language line and interpreter, which can significantly extend call time.

(4) Referrals**Table 4A. Referral Source Reported by Caller (N=1098)**

Referral Source	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
Hospital	268	237	286	791	72.0%
Website/Search Engine	52	31	52	135	12.3%
Providers office	26	20	25	71	6.5%
WIC clinic	18	15	21	54	4.9%
Family or Friend	14	13	6	33	3.0%
Billboard	3	2	3	8	0.7%
Brochure	1	4	0	5	0.5%
TV	0	1	0	1	0.1%
Total	382	323	393	1098	100%

Not applicable n=189

During the call, clients were asked how they heard about the TBH. 1098 (85.3%) of all callers indicated some type of referral to the TBH. Exactly 72% of those callers were referred to the TBH by a hospital, followed by the TBH website (12.3%).

Table 4B. Number and Proportion of Callers Referred to Provider by the Hotline (N=837)

Referral Status	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
No referral given	23	252	393	668	79.8%
Referred to own provider	69	42	44	155	18.5%
Referred to other provider in the vicinity	2	6	6	14	1.7%
TOTALS:	94	300	443	837	100%

Missing n=450

The TBH captured information about whether the caller was referred to a provider for their issue. There were 837 (65.0%) callers who were assessed to receive a referral to a provider. Of those, 20.2% of callers were referred to a provider.

Table 4C. Number and Proportion of Callers Referred for Immediate Medical Attention (N=1207)

Medical Reference Given	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
No	391	362	418	1171	97.0%
Yes	20	10	6	36	3.0%
TOTALS:	411	372	424	1207	100%

Not applicable n=80

There were 1,207 (93.8%) calls assessed to determine if caller required immediate medical attention. Only 36 (3%) callers were advised to seek immediate medical attention. Reasons that the mother would have been advised to do so include: the mother had symptoms of mastitis or a yeast infection, and any issue above and beyond the scope of practice.

Table 4D. Number and Proportion of Callers Referred to Lactation Professionals (N=1186)

Referred to a Lactation Specialist	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
No	353	317	360	1030	86.8%
Yes	59	50	47	156	13.2%
TOTALS:	412	367	407	1186	100%

Not applicable n=101

There were 1,186 (92.2%) calls assessed to determine if caller should be referred to a local lactation professional. During the 2nd quarter, the TBH advised 156 (13.2%) of those callers to seek out a local lactation professional.

(5) First Time or Repeat Caller

Table 5. TBH Caller by Call Type (N=1286)

Caller Type	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
First time	301	268	314	883	68.7%
Repeat Caller	145	124	134	403	31.3%
TOTALS:	446	392	448	1286	100%

Not applicable n=1

The majority (68.7%) of calls received were from first time callers.

(6) Interpretive Services**Table 6. Use of Interpretive Services (N=1283)**

Interpretive Services	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
Not Used	438	387	438	1263	98%
Used	8	5	7	20	2%
TOTALS:	446	392	445	1283	100%

Not applicable n=4

Only 20 (2%) of calls used interpretive services. Of those 20 calls that required interpretation, 14 were for Spanish-speaking callers and 1 was for an Arabic-speaking caller. The remaining five calls did not denote the language needed.

(7) Caller Location**Table 7. Number and Proportion of Calls, by TN Department of Health Regions (N=1091)**

Region	Total Calls	Percent
Shelby	272	24.9%
Mid-Cumberland	211	19.3%
Davidson	194	17.8%
Knox	74	6.8%
East	57	5.2%
South Central	55	5.0%
Upper Cumberland	55	5.0%
Hamilton	50	4.6%
Sullivan	35	3.2%
West	34	3.1%
Northeast	26	2.4%
Southeast	22	2.0%
Madison	6	0.5%
TOTALS:	1091	100%

Missing n=19

The table above depicts call volume by the Tennessee Department of Health regions during the 2nd quarter. There were a total of 1,110 (86.2%) calls from Tennessee residents. Of callers who reported a county of residence, approximately 58% of calls to the TBH were from residents of metro regions. During this quarter, the majority of TN resident calls to the TBH were from Shelby, Mid-Cumberland, and Davidson regions.

Figure 3. Call Volume, by Caller's County of Residence, October to December 2015

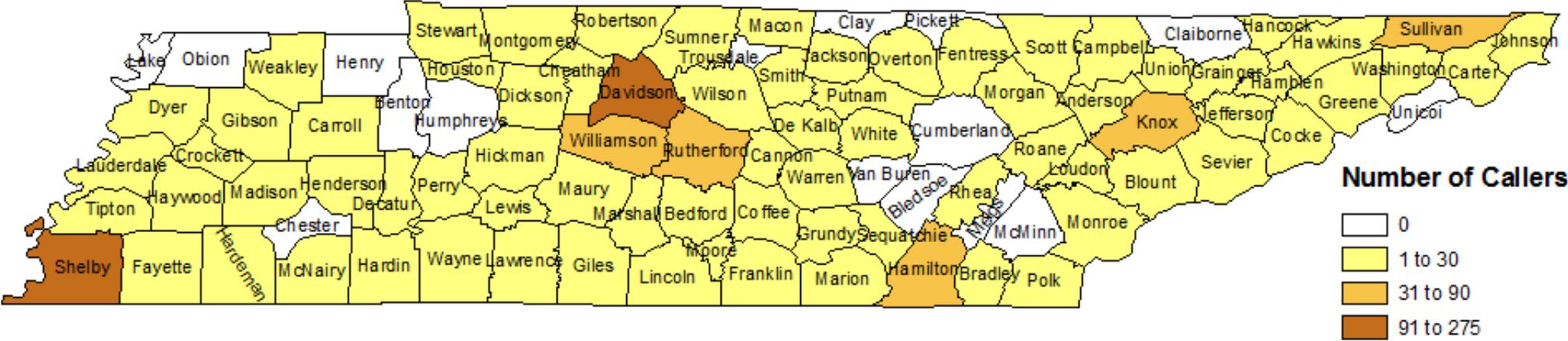
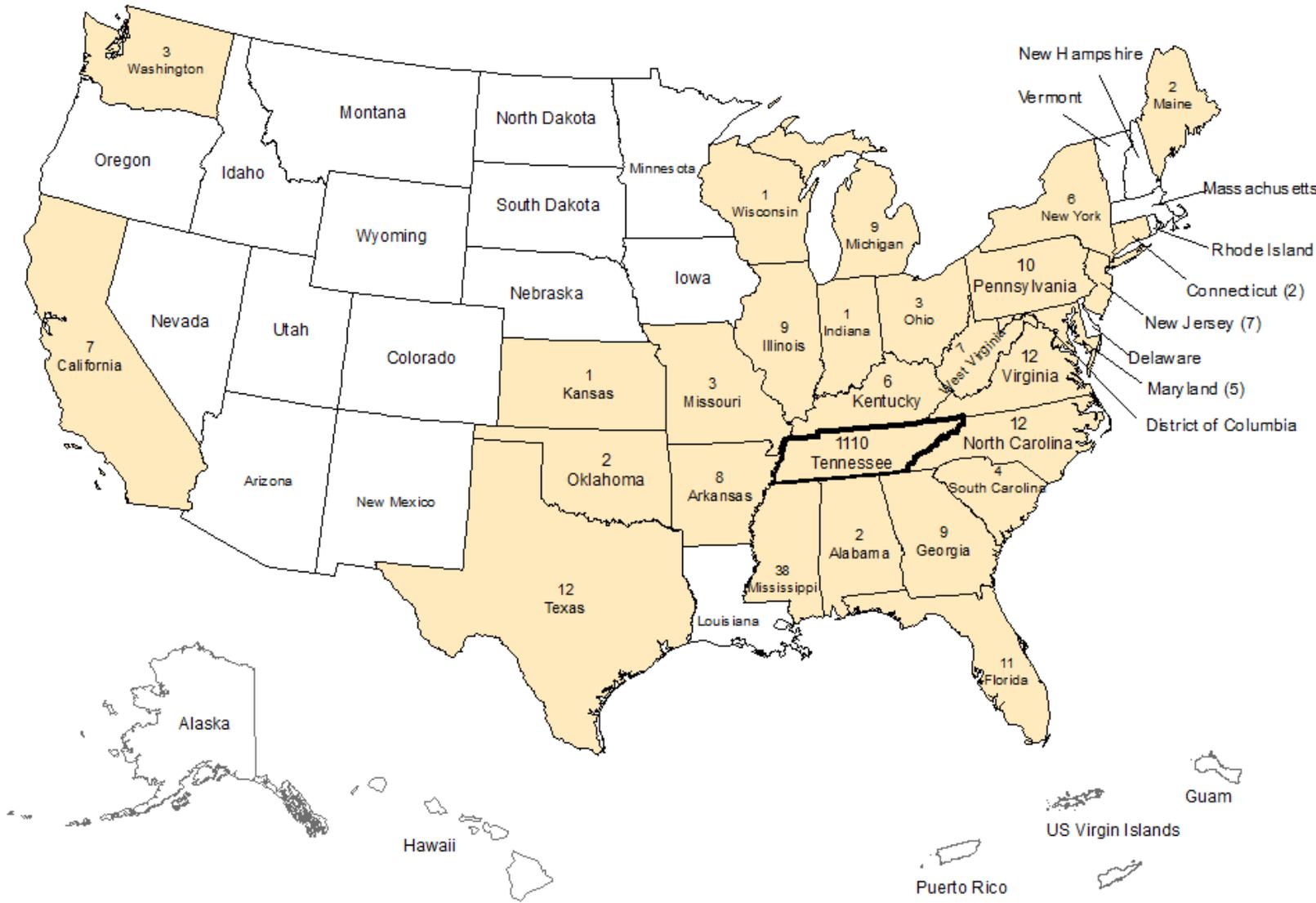


Figure 4. Call Volume, by Caller's State of Residence, October to December 2015



Overall, TBH received calls from 160 unique counties across multiple states.

(8) Caller's Relationship to Mother**Table 8. Number and Proportion of Calls, by Caller's Relationship to Mother (N=1257)**

Relationship to Mother	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Self	418	358	414	1190	94.7%
Spouse or partner	16	15	11	42	3.3%
Family or household member	1	6	11	18	1.4%
Healthcare Provider	0	2	5	7	0.6%
TOTALS:	435	381	441	1257	100%

Not applicable n=30

During this quarter, the majority (94.7%) of callers to the TBH were the mothers.

(9) Maternal Age, Race, and Ethnicity**Table 9A. Number and Proportion of Calls, by Maternal Age (N=1055)**

Maternal Age	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
15 - 17	1	4	3	8	0.8%
18 - 20	8	15	15	38	3.6%
21 - 25	92	70	75	237	22.5%
26 - 30	158	129	165	452	42.8%
31 - 35	79	79	84	242	22.9%
36 - 40	30	18	22	70	6.6%
41 - 45	5	2	1	8	0.8%
TOTALS:	373	317	365	1055	100%

Missing or Not applicable n=232

Callers to the TBH were asked to report their age during the initial call. During the 2nd quarter, call volume was highest (42.8%) among mothers aged 26 to 30 years.

Table 9B. Number and Proportion of Calls, by Maternal Race (N=1039)

Maternal Race	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
White	286	244	286	816	78.5%
Black	62	66	65	193	18.6%
Asian	5	7	3	15	1.4%
Multiple Races	1	0	8	9	0.9%
American Indian/Alaskan Native	3	1	0	4	0.4%
Native Hawaiian/Pacific Islander	1	0	1	2	0.2%
TOTALS:	358	318	363	1039	100%

Missing or Not applicable n=248

TBH callers were asked to report maternal race during initial call. Of those who reported race, 78.5% were white followed by black (18.6%). About 2% of TBH callers indicated belonging to another race.

Table 9C. Number and Proportion of Calls, by Maternal Ethnicity (N=1102)

Maternal Ethnicity	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
Not Hispanic	366	316	364	1046	94.9%
Hispanic	22	17	17	56	5.1%
TOTALS:	388	333	381	1102	100%

Not applicable n=185

Mother's ethnicity was reported for 1102 (85.6%) calls. Of those with ethnicity documented, 56 (5.1%) callers identified as Hispanic/Latina.

(10) Mother's Pregnancy History**Table 10A. Number and Proportion of Calls, by Caller's Pregnancy History (N=654)**

Number of Prior Pregnancies	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
1	153	134	132	419	64.1%
2	41	52	51	144	22.0%
3	20	17	20	57	8.7%
4	8	6	4	18	2.8%
5	1	3	4	8	1.2%
6	2	1	3	6	0.9%
7	0	0	1	1	0.2%
10+	0	1	0	1	0.2%
TOTALS	225	214	215	654	100%

Missing n=633

During the initial call, callers were asked to report the number of prior pregnancies. Pregnancy history was captured for 654 (50.8%) callers. Approximately 86% of women reported one or two prior pregnancies.

Table 10B. Number and Proportion of Calls, by Prior Live Births (N=764)

Number of Prior Live Births	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
1	180	174	173	514	67.0%
2	51	62	57	166	21.6%
3	24	20	23	62	8.5%
4	6	6	4	16	2.0%
5	1	2	2	5	0.6%
6	180	0	1	1	0.1%
TOTALS:	240	264	260	764	100%

Missing n=501

Table 10B shows the number and proportion of calls by prior live births of the caller. The number of prior live births was documented for 764 (59.4%) callers. During this quarter, about 67% of women had only one previous live birth.

In 2014, 10.8% of babies born to Tennessee residents were delivered preterm.⁵ During this quarter, only 6.4% of TBH callers reported delivering preterm (<37 weeks).

The gestational age categories for this question were changed in late October 2015 as part of the TBH report revisions. Therefore, complete information about infant's gestational age at birth was unavailable for this quarter. The two tables below show infant's gestational age at birth with the categories prior to revisions (Table 10C) and the categories after the reporting revisions (Table 10D). The recommended classification of deliveries after 37 weeks of gestation from the American College of Obstetricians and Gynecologists (ACOG)⁶ was used in Table 10D. These categories will be used for subsequent reports.

Table 10C. Number and Proportion of Calls, by Infant's Gestational Age at Birth, Old Categories (N=494)

Gestational Age	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
< 37 weeks (pre-term)	23	23	21	67	13.5%
37-40 weeks (term)	292	70	0	362	73.3%
40+ weeks (post-term)	56	9	0	65	13.2%
TOTALS:	371	102	21	494	100%

Table 10D. Number and Proportion of Calls, by Infant's Gestational Age at Birth, New Categories* (N=618)

Gestational Age	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
< 37 weeks (pre-term)	23	23	21	67	10.8%
37 to <39 weeks (early term)	0	60	106	166	26.9%
39 to <41 weeks (full term)	2	142	214	358	57.9%
41 to <42 (late term)	0	13	14	27	4.4%
TOTALS:	25	238	355	618	100%

*Recommended classifications from American College of Obstetricians and Gynecologists

⁵ Centers for Disease Control and Prevention/National Center for Health Statistics, *Stats for the State of Tennessee*, Page last reviewed: November 9th, 2015. Retrieved from http://www.cdc.gov/nchs/pressroom/states/TN_2015.pdf

⁶ Definition of term pregnancy. Committee Opinion No. 579. American College of Obstetricians and Gynecologists. *Obstet Gynecol* 2013; 122:1139-40.

(11) Baby's Birth Information**Table 11A. Number and Proportion of Calls, by Infant's Age during Initial Call (N=1048)**

Age of Infant	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
< 1 week	90	83	93	266	25.4%
1 week - < 1 month	88	75	92	255	24.3%
1 - < 3 months	79	74	64	217	20.7%
3 - < 6 months	55	46	58	159	15.2%
6 - < 9 months	29	21	26	76	7.3%
9 - < 12 months	10	13	8	31	3.0%
12 - 18 months	17	10	10	37	3.5%
19 - 24 months	5	2	0	7	0.7%
TOTALS:	373	324	351	1048	100%

Missing n=239

Callers were asked to indicate the age of infant during initial call to the TBH. About a quarter (25.4%) of calls was made when the baby was less than a week old, followed closely by calls made when the baby was less than 1 month (24.3%).

Table 11B. Number and Proportion of Calls, by Delivery Method (N=551)

Delivery Method	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Vaginal	153	122	138	413	75.0%
Cesarean	53	40	45	138	25.0%
TOTALS:	208	162	187	551	100%

Missing n=736

Table 11B shows the number and proportion of calls by delivery method during the 2nd quarter. Three-quarters (75%) of women indicated that they had a vaginal delivery. Six of the callers during this quarter were pregnant at time of the call (delivery method recorded as 'not yet born'). These instances were documented but were excluded with regard to the table above.

(12) Feeding Information**Table 12A. Number and Proportion of Calls, by Breastfeeding Status (N=699)**

Breastfeeding Status	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Breastfeeding exclusively	115	133	142	390	55.8%
Breastfeeding with supplemental nutrition	65	45	54	164	23.5%
Both breastfeeding and pumping	43	32	38	113	16.2%
Pumping exclusively	12	8	12	32	4.6%
TOTALS:	235	218	246	699	100%

Missing n=588

TBH collected information about the breastfeeding status of mothers during initial call. 699 (54.3%) callers reported a breastfeeding status to TBH staff. Of the mothers who disclosed their breastfeeding status, the majority (55.8%) were breastfeeding exclusively. About 24% of callers were breastfeeding with supplemental nutrition.

Table 12B. Number and Proportion of Callers Breastfeeding within 24 Hours of Delivery (N=589)

Breastfeeding within 24 Hours?	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Yes	183	178	201	562	95.4%
No	10	10	7	27	4.6%
TOTALS:	193	188	208	589	100%

Missing n=698

Table 12B shows number and proportion of callers who indicated breastfeeding within 24 hours of delivery. Of 589 mothers who responded, 562 (95.4%) of mothers began breastfeeding their baby within 24 hours of birth.

(13) Reasons for Calling**Table 13A. Number and Proportion of Calls, by Primary Reason for Call (N=1188)**

Primary Reason for Call	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
Breast-Related Problems	87	72	84	243	20.5%
Maternal Health Behaviors	64	58	75	197	16.6%
Lactation or Milk Concerns	63	52	54	169	14.2%
Infant Health Concerns	37	43	45	125	10.5%
Milk Expression	40	33	37	110	9.3%
Breastfeeding Management	38	35	29	102	8.6%
Infant Health Behaviors	26	28	23	77	6.5%
Breastfeeding Technique	29	19	26	74	6.2%
Maternal Health Concerns	17	18	14	49	4.1%
Breastfeeding Support	5	6	8	19	1.6%
Medical Condition (Infant)	6	3	9	18	1.5%
Supplemental Nutrition	2	2	1	5	0.4%
TOTALS:	414	369	405	1188	100.0%

Missing n = 99

Callers were asked to indicate their primary reason for calling the TBH, which TBH categorized into the reasons above. Please see Appendix A for classification of individual reasons. During this quarter, 20.5% of calls were regarding breast-related problems (e.g. breast or nipple pain, breast engorgement, or sore nipples) followed by maternal health behaviors (16.6%). The top five individual reasons for calling the TBH included: medications and breastfeeding, not making enough milk, breast/nipple pain, breast engorgement, and appropriate feeding by age/weight.

Table 13B. Number and Proportion of Calls: Top 10 Additional Reasons for Calling (N=107)

Top Additional Reasons for Calling	October	November	December	2 nd Quarter Total	2 nd Quarter Percent
Not making enough milk	5	5	7	17	16.8%
Breastfeeding technique	9	3	3	15	14.9%
Medications and breastfeeding	2	3	5	10	9.9%
Breast engorgement	2	5	3	10	9.9%
Appropriate feeding by age/weight	3	3	4	10	9.9%
Milk storage	3	1	4	8	7.9%
Sore nipples	2	2	4	8	7.9%
Supplemental feeding	2	2	4	8	7.9%
Working and breastfeeding	4	2	2	8	7.9%
Breast or nipple pain	2	3	2	7	6.9%
TOTALS:	34	29	38	101	100.0%

In addition to the primary reason for calling, lactation professionals noted additional questions that were brought up during the course of the call. Many mothers did not bring up additional questions. However, of those who did (N=101), top concerns were related to not making enough milk (16.8%) and breastfeeding technique (14.9%).

(14) Outcomes at Follow-Up

At the end of each initial call to the TBH, the lactation professionals asked the callers if they intended to continue breastfeeding (Results in Table 14A). Continuation of breastfeeding was also asked during the 4-week, 8-week, and 12-week follow up calls (pg. 22, Table 14B).

Also, the lactation professionals indicated whether they believed the caller seemed more confident and comfortable with breastfeeding by the end of the initial call (pg. 23, Table 14D). Similar to the question regarding the continuation of breastfeeding, caller confidence and comfort was also assessed by TBH staff at 4-week, 8-week, and 12-week follow-up calls (pg. 23, Table 14E).

Table 14A. Number and Proportion of Calls, by Intention to Continue Breastfeeding (N=1138)

Intention to Continue Breastfeeding	October	November	December	2nd Quarter Totals	2nd Quarter Percent
Yes	396	337	382	1115	98.0%
No	7	13	3	23	2.0%
TOTALS:	403	350	385	1138	100%

Not applicable n =149

When asked about the intention to continue breastfeeding, 1115 (98%) of callers intended to continue breastfeeding at the end of the initial call.

Table 14B. Caller’s Breastfeeding Status, by Follow-Up Period

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Still Breastfeeding N (%)
4 week	929	699	230 (24.8%)	217	190 (87.5%)
8 week	836	640	196 (23.4%)	185	160 (86.5%)
12 week	779	615	164 (21.1%)	157	125 (79.6%)

Notes: Reached = # of callers reached out of # of calls attempted

Still breastfeeding = # of callers still breastfeeding out of # of callers who answered the question

During the 2nd quarter, TBH attempted a total of 2,544 calls to clients to follow-up about breastfeeding status; only 590 (23.2%) of callers were reached for follow-up. When asked about breastfeeding status, women were more likely to indicate still breastfeeding during earlier periods of follow-up.

At the 4-week follow-up, 190 (87.5%) of callers were still breastfeeding. This proportion drops slightly for callers during the 8-week follow-up (86.5%). The lowest proportion of callers who indicated still breastfeeding was seen for callers for the 12-week follow-up (79.6%). Reasons reported by the mothers who ceased breastfeeding during the weeks in between the initial call and the follow up included mother returning to work, the baby refusing to latch, stress, not making enough milk, medications, and lack of support.

Table 14C. Breastfeeding: Exclusive or Supplemental, by Follow-Up Period

Follow-Up Period	Number Still Breastfeeding (from Table 14B)	Answered Question	Supplemented N (%)	Exclusive N (%)
4 week	190	184	41 (22.3%)	143 (77.7%)
8 week	160	149	29 (19.5%)	120 (80.5%)
12 week	125	121	25 (20.7%)	96 (79.3%)

Callers who indicated that they were still breastfeeding during the follow-up call (Table 14B) were then asked if they were breastfeeding exclusively or with supplemental nutrition. Of callers who indicated that reported still breastfeeding, more mothers were exclusively breastfeeding their infants during each follow-up period.

Table 14D. Number and Proportion of Callers Confident or Comfortable Breastfeeding at End of Initial Call (N=1118)

Comfort with Breastfeeding	October	November	December	2 nd Quarter Totals	2 nd Quarter Percent
Yes	390	341	379	1110	99.3%
No	4	2	2	8	0.7%
TOTALS:	394	343	381	1118	100%

Not applicable n=169

TBH staff reported that almost all (99.3%) callers had increased comfort and confidence with breastfeeding by the end of their interaction.

Table 14E. Caller’s Confidence and Comfort with Breastfeeding, by Follow-Up Period

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Answered Question	Improved N (%)	Did Not Improve N (%)
4 week	929	699	230	188	169 (89.9%)	19 (10.1%)
8 week	836	640	196	140	130 (92.9%)	10 (7.1%)
12 week	779	615	164	121	113 (93.4%)	8 (6.6%)

Notes: Reached = # of callers reached out of # of calls attempted;

Improved= # of callers with improved confidence or confidence breastfeeding out of # of callers who answered the question

During the 2nd quarter, TBH attempted a total of 2,544 calls to clients to follow-up on caller’s confidence and comfort with breastfeeding; only 590 (23.2%) of callers were reached for scheduled follow-up.

At the 4-week follow-up, 169 (89.9%) of callers reported increased confidence and comfort. This proportion increases slightly for callers during the 8-week follow-up (92.9%) and the 12-week follow-up (93.4%).

(15) Client Satisfaction with Services

Clients rated services at different intervals: 4 weeks, 8 weeks, and 12 weeks after services had been rendered. Callers were asked to rate their overall satisfaction with hotline services and indicate their likelihood to recommend TBH services to another person.

Table 15. Caller’s Satisfaction and Likelihood to Recommend the TN Breastfeeding Hotline, by Follow-Up Period

Follow-Up Period	Calls Attempted	Not Reached	Reached N (%)	Satisfied N (%)	Likely to Recommend N (%)
4 week	929	699	230 (24.8%)	199 (86.5%)	206 (89.6%)
8 week	836	640	196 (23.4%)	170 (86.7%)	171 (87.2%)
12 week	779	615	164 (21.1%)	155 (94.5%)	152 (92.7%)

Notes: Reached = # of callers reached out of # of calls attempted;
 Satisfied = # of callers satisfied or very satisfied with TBH services out of # of callers reached
 Likely to Recommend = # of callers likely or very likely to recommend TBH services out of # of callers reached

To assess client satisfaction of services provided, the TBH reached a total of 590 callers during the 2nd quarter. Callers were asked to rate their level of satisfaction of TBH from 1 (very dissatisfied) to 5 (very satisfied). Overall, clients were satisfied with TBH services during each follow-up period (range: 86.5% – 94.5%). During each follow-up, callers were asked to indicate their likelihood to recommend the TBH to others (1 - very unlikely to 5 - very likely). Overall, callers were likely to recommend TBH services to another person (range: 87.2% - 92.7%).

(16) Texting Follow-Up (Pilot)

In June 2015, TBH began pilot implementation of a texting follow-up program. Texts were sent only after a member of the TBH staff was unsuccessful in reaching the caller via voice call. Texting follow-up consisted of the following message, which was personalized for each caller contacted:

“Thank you for taking the time to answer a few questions about your experience with the Tennessee Breastfeeding Hotline. Remember, if you have any questions, feel free to call us at any time at 1-855-423-6667 and we would be happy to help you.”

Results are currently not separated by weeks due to restraints by the texting platform; the TBH is working with iCarol to figure out a solution to this. Furthermore, not all questions asked during traditional follow-up method are asked for texting follow-up. Currently, only information pertaining to breastfeeding status, satisfaction of services, and level of comfort/confidence breastfeeding is captured.

Table 16A. Texting Follow-Up: Caller’s Breastfeeding Status

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	111	102 (91.9%)	9 (8.1%)

During the 2nd quarter, TBH received responses from 111 callers via text for follow-up. Of those who responded, 102 (91.9%) reported that they were still breastfeeding.

Table 16B. Caller's Satisfaction with TN Breastfeeding Hotline

Follow-Up Method	Texts Received	Satisfied or Very Satisfied N (%)
Text	112	106 (94.6%)

Note: Satisfied = # of callers satisfied or very satisfied with TBH services

TBH received 112 responses regarding caller's satisfaction with services provided. Close to 95% responded that they were satisfied with services received.

Table 16C. Caller's Likelihood to Recommend TN Breastfeeding Hotline

Follow-Up Method	Texts Received	Likely to Recommend N (%)
Text	112	106 (94.6%)

Note: Likely to Recommend = # of callers likely or very likely to recommend TBH services

TBH received 112 responses with regard to caller's likelihood to recommend the TBH to others. Of 112 texts received, 106 (94.6%) indicated that they were likely to recommend the TBH to another person.

Table 16D. Caller's Increase in Confidence/Comfort with Breastfeeding

Follow-Up Method	Texts Received	Yes N (%)	No N (%)
Text	109	100 (91.7%)	9 (8.3%)

TBH received 109 responses with regard to caller's increase in confidence and comfort with breastfeeding. Of the 109 texts received, 100 (91.7%) indicated that they were more comfortable and confident breastfeeding.

Our Team

Meri Armour – President, Le Bonheur Children’s Hospital
Meri provides oversight over the entire hospital.

Sharon Harris, MSN, RN – Administrative Director, Le Bonheur Children’s Hospital.
Sharon provides oversight of the Maternal Child Department.

August Marshall, M.A. – Evaluation Coordinator
August updates iCarol survey questions as needed, provides general iCarol support to the TBH staff, analyzes hotline data and helps write and submit quarterly and annual reports.

Cathy Marcinko, M.A. -- Grant Development Coordinator
Cathy assists division departments in researching, developing and submitting funding proposals, and with other assignments, as needed. She has a Masters’ Degrees in Community Planning and in Teaching, and has a BA in Art History.

Christina M. Underhill, Ph.D. -- Program Evaluation Manager for the LCHWB Division
Christina coordinated the creation of the TBH quarterly report format and assisted with the development of the TBH quality improvement plan. She advises on the collection of outcome measures and ensures proper data management.

Gary R. Cook, LCSW -- Director of LCHWB Grant Administration Department
Gary co-authored the TN Breastfeeding Hotline Proposal. He provides contract related and fiscal oversight of the project.

Nicole Gottier, M.A. -- Grant Reimbursement Supervisor
Nicole tracks monthly expenses for the program for correctness, as well as alignment with budget projections, and creates and submits monthly invoices to the State.

Sandra Madubonwu MSN, RN, CLC – Director, Maternal Child Department.
Sandra was involved in the proposal process for the TN Breastfeeding Hotline and played an instrumental role in implementing the program. She provides administrative oversight to all the programs within the Maternal Child Department, including the TBH.

Helen Scott, RN/IBCLC/RLC -- Project Coordinator of the Tennessee Breastfeeding Hotline
Helen coordinates the staff and ensures that the Hotline is working to meet identified purposes and goals.

Lactation Consultants and Counselors

Sandra Madubuonwu, MSN, RN, CLC
Helen Scott, RN, IBCLC, RLC
Crystal Higgins, MS, CLC
Victoria Roselli, BS, IBCLC, RLC
Pam Avant, BSN, IBCLC, RLC, RN
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Tennessee Breastfeeding Hotline Community Advisory Board (CAB)

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Margaret T. Lewis, Tennessee Department of Health
Kristin L. Gentry, Tennessee Department of Health
Sierra Mullen, Tennessee Department of Health
Jolene Hare, Tennessee Department of Health
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Trina Gillam, Le Bonheur Community Health and Well-Being
Lauren Robinson, Le Bonheur Community Health and Well-Being
Jackie Owens, Breastfeeding Mother/Community Member

APPENDIX A. Categorization of the Primary Reason for Calling the Tennessee Breastfeeding Hotline

CATEGORIES	REASONS / ISSUES
Supplemental Nutrition: Issues related to complementing breastfeeding with expressed human milk or some other fluid or food	<ul style="list-style-type: none"> • Vitamin D supplementation • Supplemental feeding
Milk Expression: Issues related to taking breastmilk from the mother’s breast without the baby needing to suckle.	<ul style="list-style-type: none"> • Breast pumps and rentals • Exclusive pumping • Milk storage
Breast-Related Problems: Issues or problems mother can experience that are commonly associated with breastfeeding	<ul style="list-style-type: none"> • Breast mass • Breast engorgement • Sore nipples • Breast or nipple pain • Nipple abnormality
Breastfeeding Management: Issues related to the process of maintaining or integrating breastfeeding within a mother’s routine or circumstances	<ul style="list-style-type: none"> • Tandem nursing • Breastfeeding while pregnant • Working and breastfeeding • Managing multiple breastfeeding babies • Weaning • Bottle feeding • Returning to work/school • Baby feeding to much / too little
Breastfeeding Support: Resources, guidance, or laws that can assist with breastfeeding	<ul style="list-style-type: none"> • Public breastfeeding • Donor milk • TN breastfeeding laws • Seeking resources • Pre-birth information / counseling
Breastfeeding Technique: Issues related to mother’s breastfeeding skill	<ul style="list-style-type: none"> • Inability to latch • Breastfeeding technique • Clicking / Noisy nursing
Medical Condition (Infant): Issues related to an infant’s disease, disorder, illness, or complication diagnosed by a health care provider that can impact mother’s ability to breastfeed	<ul style="list-style-type: none"> • Feeding baby with hypotonia • Feeding baby with Down Syndrome • Feeding baby with cleft lip / palate • Jaundice • Late preterm newborn • Managing premature infant breastfeeding • Tongue-tie • Allergies • Baby spitting up (reflux)
Infant Health Behaviors: Issues related to infant’s actions that can impact mother’s ability to breastfeed	<ul style="list-style-type: none"> • Baby biting breast • Baby refusing to nurse • Distraction during breastfeeding • Sleepiness

<p>Maternal Health Behaviors: Issues related to the practices (choices), of the mother that can impact her overall health and ability to breastfeed</p>	<ul style="list-style-type: none"> • Alcohol use • Substance abuse / Illicit drug use • Smoking / Smoking cessation • Exercise and breastfeeding • Diet • Medications and breastfeeding
<p>Lactation or Milk Concerns: Issues related to mother’s anxiety or worry about milk production or quality</p>	<ul style="list-style-type: none"> • Overactive letdown / too much milk • Not making enough milk • Re-lactation • Adoption • Color change in milk
<p>Infant Health Concerns: Issues related to mother’s anxiety or worry about infant’s health state or condition</p>	<ul style="list-style-type: none"> • Fussiness / Colic • Gassiness • Appropriate feeding by age / weight • Abnormal stools / voids • Lethargy • Weight concerns • Sick baby • Constipation
<p>Maternal Health Concerns: Issues related to mother’s anxiety or worry about her own health state or condition</p>	<ul style="list-style-type: none"> • Maternal postpartum vaginal bleeding • Menstruation / Return of menstrual cycle • Maternal sickness • Maternal postpartum depression
<p>Other: An issue indicated by mother that is other than what is currently listed</p>	<ul style="list-style-type: none"> • Specify